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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,770	10/24/2005	Goran Sundholm	U 015738-6	6031
140	7590	12/30/2008		
LADAS & PARRY LLP 26 WEST 61ST STREET NEW YORK, NY 10023				
EXAMINER				
KIM, CHRISTOPHER S				
ART UNIT		PAPER NUMBER		
3752				
MAIL DATE		DELIVERY MODE		
12/30/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,770

Applicant(s)

SUNDHOLM, GORAN

Examiner

Christopher S. Kim

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The response filed October 1, 2008 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites

re-circulating at least some of the extinguishing medium which is not passed to the nozzle back to a suction side of the pump means; and
passing at least some of the re-circulated extinguishing medium into a discharge pipe and any remaining re-circulated extinguishing medium to the pump means (3).

The claim requires two steps of re-circulating the extinguishing medium to the pump means. The disclosure, as originally filed, fails to disclose two re-circulations to the pump means.

Claim 9 recites

means for re-circulating at least some of the extinguishing medium from a pressure side of the pump means to a suction side of the pump means; and means for passing at least some of the extinguishing medium being re-circulated into a discharge pipe and any remaining extinguishing medium to the pump means.

The claim requires two means for re-circulating the extinguishing medium to the pump means. The disclosure, as originally filed, fails to disclose two means for re-circulating the extinguishing medium to the pump means.

4. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation "passing...any remaining re-circulated extinguishing medium to the pump means" in lines 7-9 appears to be a double inclusion of the recitation "re-circulating at least some of the extinguishing medium which is not passed to the nozzle back to a suction side of the pump means" in lines 5-6.

In claim 9, the recitation "means for passing...any remaining extinguishing medium to the pump means" in lines 6-8 appears to be a double inclusion of the recitation "means for re-circulating at least some of the extinguishing medium from a pressure side of the pump means to a suction side of the pump means" in lines 4-5

Claim Rejections - 35 USC § 102

5. Claims 1-7, 9, 11-13, 15 (as best understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Chatman (1,087,136).

In claim 9:

Art Unit: 3752

Chatman discloses an apparatus comprising:

a source 21 of an extinguishing medium (water, page 1, lines 83-91);

pump means 10;

means 5 for conducting at least some of the extinguishing medium;

at least one nozzle 11;

means 7, 15 for re-circulating at least some of the extinguishing medium;

means 6 for passing at least some of the extinguishing medium being re-circulated into a discharge pipe 26.

In claim 11:

Chatman discloses the means for re-circulating comprises:

a passage 7;

a pressure valve 15.

In claim 12:

Chatman discloses a valve element 28.

In claim 13:

Chatman discloses the valve element 28 being a check valve. A check valve operates on pressure differentials. Since pressure and temperature are related parameters, the valve element 28 is indirectly based on temperature.

In claim 15:

Chatman discloses a throttle element (valve 36 or valve upstream of valve 28).

6. Claims 1-6, 9, 11-13, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Worthington (5,398,765).

Worthington discloses a fire extinguishing spraying apparatus comprising:

- a source 16 of a medium;
- a pump means 34;
- a means 44 for passing at least a proportion of the medium to at least one nozzle 50;
- re-circulating at least some of the medium (via valve 74);
- passing at least some of the medium re-circulated into a discharge pipe

28.

Worthington's valve 105 is a pressure regulating valve. Therefore, it inherently is controlled based on temperature because there is an inherent relationship between fluid pressure and temperature.

Claim Rejections - 35 USC § 103

7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art in view of Kirkelund et al. (4,941,505).

Claims 1 and 9 are presented in Jepson format.

In claim 1:

Kirkelund discloses an apparatus comprising:

- a source of medium 16;
- a pump means 12;
- means for passing at least some of the medium;
- at least one nozzle 28;

re-circulating at least some of the medium (medium flowing through 18 and 40) which is not passed to the nozzle 28 back to a suction side of the pump means 12 (through line having check valve leading from return line 41 to the suction side of pump 12);

passing at least some of the medium re-circulating into a discharge pipe 41 (leading back to supply 16) and not the pump means 12.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the recirculation and discharge pipe of Kirkelund to the Prior Art to control excessive pressure (Kirkelund, column 3, lines 5-12).

In claim 2:

Kirkelund further discloses the flow into the discharge pipe 41 is restricted (through orifice 40 and opening size of valve 18).

In claim 3:

Kirkelund discloses that at least some of the medium being re-circulated is passed into the discharge pipe 41. Therefore, it also performs the function at some set temperature. Applicant's claimed invention does not prevent passing some of the re-circulated medium into the discharge pipe outside of the set temperature.

In claim 4:

Kirkelund discloses that passage into the discharge pipe 14 is opened and/or closed by means of a valve element 18, 19. The valve 18, 19 is a pressure regulator. Since pressure and temperature are related parameters, the regulator 18, 19 is indirectly based on temperature.

In claim 5:

Kikelund discloses the flow rate of the medium being re-circulated is reduced when the flow rate of the extinguishing medium to the nozzles 28 is increased (inherently performed by regulator 18, 19).

In claim 6:

Kikelund discloses the flow rate of the medium being re-circulated is increased when the flow rate of the extinguishing medium to the nozzles 28 is reduced (inherently performed by regulator 18, 19).

In claim 9:

Kirkelund discloses an apparatus comprising:

- a source of medium 16;

- a pump means 12;

- means for conducting (line having valve 14);

- at least one nozzle 28;

- means (line having check valve leading from return line 41 to the suction side of pump 12) for re-circulating at least some of the medium from a pressure side of the pump means 12 to a suction side of the pump means 12;

- means (branch in line 41 leading to supply 16) for passing at least some of the medium being re-circulated into a discharge pipe 41 (discharge pipe 41 leading to supply 16).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the recirculation and discharge pipe of Kirkelund to the Prior Art to control excessive pressure (Kirkelund, column 3, lines 5-12).

In claim 11:

Kirkelund discloses the means for re-circulating comprises:

a passage (line have valve 18, 19 and line having check valve leading from return line 41 to the suction side of pump 12);

a pressure valve 18, 19.

In claim 12:

Kirkelund discloses a valve element 18, 19.

In claim 13:

Kirkelund discloses a means (regulator 19) for opening and/or closing the valve element 18. The regulator 19 is a pressure regulator. Since pressure and temperature are related parameters, the regulator 19 is indirectly based on temperature.

In claim 16:

Kirkelund discloses a check valve (check valve in line going form line 41 to suction side of pump 12).

Regarding claim 7, Prior Art in view of Kirkelund discloses the limitations of the claimed invention with the exception of the extinguishing medium being water based liquid. Water is well known in the art as being an extinguishing medium. It would have been obvious to a person having ordinary skill in the art at the time of the invention to

have used water in the Prior Art in view of Kirkelund to reduce cost since water is plentiful.

Regarding claim 10, Prior Art in view of Kirkelund discloses the limitations of the claimed invention with the exception of the pump means 12 being a constant volume pump or a piston pump. Constant volume pumps and/or piston pumps are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a constant volume pump or a piston pump in the Prior Art in view of Kirkelund to reduce cost by using existing well proven components.

Regarding claim 8 and 14, Prior Art in view of Kirkelund discloses the limitations of the claimed invention with the exception of the pump means 12 being a 1-300 bar pressure pump. 1-300 bar pressure pumps are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a 1-300 bar pressure pump in the Prior Art in view of Kirkelund to reduce cost by using existing well proven components.

Regarding claim 15, Prior Art in view of Kirkelund discloses the claimed invention with the exception of the discharge pipe (line 41 leading to supply 16) being provided with a throttle element. Kirkelund discloses a throttle element 40. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a throttle element in the in the Prior Art in view of Kirkelund to reduce the flow to the supply thereby increasing re-circulation.

8. Claims 8, 10, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatman (1,087,136).

Regarding claims 8 and 14, Chatman discloses the limitations of the claimed invention with the exception of the medium being recirculated at 1-300 bar. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have recirculated the foam concentrate at 1-300 bar in the device of Chatman for proper proportioning with the water.

Regarding claim 10, Chatman discloses the limitations of the claimed invention with the exception of the pump means being a constant-volume pump or a piston pump. Constant volume pump or piston pump is well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a constant volume pump or a piston pump in the device of Chatman to reduce cost by utilizing existing equipment.

Regarding claim 16, Chatman discloses the limitations of the claimed invention with the exception of the check valve. Check valves are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have placed a check valve in the passage of Chatman to prevent backflow and ensure flow in one direction.

9. Claims 7, 8, 10, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worthington (5,398,765).

Regarding claim 7, Worthington discloses the limitations of the claimed invention with the exception of the foam concentrated being a water based liquid. Water based foam concentrates are well known in the art. It would have been obvious to a person

having ordinary skill in the art at the time of the invention to have used a water based foam concentrate in the device of Worthington to increase miscibility.

Regarding claims 8 and 14, Worthington discloses the limitations of the claimed invention with the exception of the medium being recirculated at 1-300 bar. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have recirculated the foam concentrate at 1-300 bar in the device of Worthington for proper proportioning with the water.

Regarding claim 10, Worthington discloses the limitations of the claimed invention with the exception of the pump means being a constant-volume pump or a piston pump. Constant volume pump or piston pump is well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a constant volume pump or a piston pump in the device of Worthington to reduce cost by utilizing existing equipment.

Regarding claim 16, Worthington discloses the limitations of the claimed invention with the exception of the check valve. Check valves are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have placed a check valve in the passage of Worthington to prevent backflow and ensure flow in one direction.

Response to Arguments

10. Applicant's arguments filed October 1, 2008 have been fully considered but they are not persuasive.

Applicant argues that Worthington does not teach passing at least some of the extinguishing medium being re-circulated into a discharge pipe. Worthington discloses re-circulating extinguishing medium via regulator 15 and by-pass valve 74. Figure 3 shows a pipe connection upstream of by-pass valve 74 (downstream of regulator 15) to pipe 102 which in turn is connected to discharge pipe 28.

11. Remainder of applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher S. Kim/
Primary Examiner, Art Unit 3752

CK